REMARKS

Claims 1-13 are now pending in this application. Claims 1-13 are rejected. Claim 1 is amended herein to clarify the invention. Claims 5 and 10 are amended herein to place them in better form.

Claims 1 and 4 have been rejected under 35 U.S.C. § 102(b) as anticipated by JP 2000-144129 (Morihito et al.).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *See Verdegaal Brothers Inc. v. Union Oil Company of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Claim 1, as amended, recites an alkaline earth metal aluminate phosphor comprising barium and/or strontium, europium, magnesium, aluminum, oxygen, and the (e) component. Morihito et al. fails to disclose the limitations of claim 1, as amended, and therefore claim 1 is patentable over Morihito et al.

Claim 4 is patentable at least for the reason that it depends from a patentable base claim. *See In re Royka and Martin*, 180 USPQ 580, 583 (CCPA 1974).

Claim 4 is also patentable because the embodiment on paragraph 5 of Morihito et al., which is relied on by the Office Action to reject claim 4, does not disclose all the limitations of claim 4. For example, claim 4 recites a mole amount with respect to a mole of the aluminum element. The Office Action has not demonstrated that this is the situation on paragraph 5 of Morihito et al. Accordingly,

claim 4 is further patentable for this reason as well.

Claims 2, 3, and 5-13 have been rejected under 35 U.S.C. § 103(a) as obvious over Morihito et al. in view of JP 2003-336055 (Setoguchi et al.).

To establish a *prima facie* case of obviousness, it is necessary to show that all the claim limitations are taught or suggested by the prior art. *See In re Royka and Martin*, 180 USPQ 580, 583, 490 F.2d 981 (CCPA 1974). The Office Action states, regarding claim 2, that Morihito et al. fails to teach a material that has been fired in an oxidizing atmosphere after being filed in a reducing atmosphere and relies on Setoguchi et al. for this teaching.

The Supreme Court has made clear that a claim composed of several elements "is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art" and stated the importance of identifying "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *See KSR International Co. v. Teleflex Inc. et al.* 82 USPQ2d 1385, 1396 (2007). The Office Action has not provided the required reasoning to prompt one of ordinary skill in the art to combine Morihito et al. and Setoguchi et al. The Office Action has not identified, specifically, what advantages are disclosed in Setoguchi et al. regarding an additional firing under an oxidizing atmosphere, where they are disclosed in Setoguchi et al., nor where those advantages are disclosed in Morihito et al. as being desirable. Accordingly, the USPTO has not met its burden in demonstrating *prima*

facie obviousness of claim 2. Moreover, the combination of elements recited in claim 2 is not found in Morihito et al. in view of Setoguchi et al.

Regarding claim 3, the Office Action has not demonstrated that the combination of compounds recited in claim 3 is disclosed or suggested by Morihito et al. in view of Setoguchi et al. The Supreme Court has made clear that rejections on obviousness grounds "cannot be sustained by mere conclusory statements". *See KSR International Co. v. Teleflex Inc. et al.* 82 USPQ2d 1385, 1396 (2007).

Claim 5 recites the following: $(Ba_{1-X}Sr_X)_{1-Y}Eu_YMgAl_{10}O_{17}$, where $0 \leq X \leq 0.3$ and $0 < Y \leq 0.2$. The Office Action cites to Setoguchi et al. for the following: $Ba_{1-x-y}Sr_yMgAl_{10}O_{17}:Eu_x$, where $0.03 < x < 0.25$ and $0 < y < 0.25$. The formula (1) of claim 5 is different than the formula the Office Action states is disclosed in Setoguchi et al. Moreover, the Office Action has not identified any particular values of x and y in formula (1) of claim 5 and the formula described in the Office Action which demonstrate that there is overlapping subject matter between the two formulas. Accordingly, the USPTO has failed to meet its burden to demonstrate *prima facie* obviousness. Additionally, the Office Action makes the general statement that it would be obvious to add certain compounds disclosed in Morihito et al. to Setoguchi et al. to enhance performance. However, the Office Action has not identified what this performance is, where it is disclosed in Setoguchi et al., and where it is disclosed in Morihito et al. that such enhanced performance is desirable. Accordingly, *prima facie* obviousness has not been demonstrated for this reason as well.

Regarding claims 7 and 8, the Office Action has not identified where in Setoguchi et al. it is disclosed what the advantages are for providing a reducing atmosphere and an oxidizing atmosphere nor has the Office Action demonstrated that such advantages are desirable in Morihito et al. Additionally, the Office Action has not identified what the improved performance of the additive element would be, where it is disclosed in Morihito et al., and where it is disclosed in Setoguchi et al. that such improved performance is desirable. Accordingly, *prima facie* obviousness has not been demonstrated.

Regarding claim 9, the Office Action has not identified any advantage for firing in an oxidizing atmosphere before firing in a reducing atmosphere in Setoguchi et al. nor any reason for modifying Morihito et al. to be the same. Accordingly, *prima facie* obviousness has not been demonstrated.

Regarding claims 10-13, Morihito et al. fails to disclose or suggest the recited compounds. Additionally, the Office Action has not identified any disclosed advantages of the process of Setoguchi et al. nor any reasons based on the disclosure of Morihito et al. as to why the process of Setoguchi et al. should be utilized in the invention of Morihito et al. Thus, *prima facie* obviousness has not been demonstrated.

Additionally, the present invention is not obvious in view of Morihito et al. alone or in combination with Setoguchi et al. The phospor disclosed in Morihito et al. is differentiated from the phosphor of the present invention as regards the

technical fields, uses, physical properties, etc. and therefore Morihito et al., as a whole, teaches away from the present invention and therefore the present invention is patentable over Morihito et al. alone or in combination with Setoguchi et al.

The alkaline earth metal aluminate phosphor of the present invention is to be utilized in PDPs (Plasma Display Panels) and similar applications, as is clear from, for example, page 18, lines 3-7 of the present specification. The phosphors used for elements of PDPs or CRTs (cathode-ray tubes) are required to have an extremely short-time afterglow (< 0.01 seconds). A long afterglow means that an afterimage remains on the display for a long time, which deteriorates the color contrast of the images. Thus, a long afterglow of elements is disadvantageous and may lead to fatal failures in the use of a display.

In contrast to the present invention, the phosphor disclosed by Morihito et al. is a phosphorescent material having an afterglow for a long time, as is clear from the Abstract of Morihito et al. Thus, the problem resolved by Morihito et al. is the complete opposite of the problem resolved by the present invention. Morihito et al. specifically teaches on, for example, paragraph [0001] that it is directed to phosphorescent materials which have an afterglow with a long duration period. Indeed, Figure 2 of Morihito et al. shows that $SrAl_4O_7$:Eu,Dy, which is a phosphorescent material of the invention of Morihito et al., has an afterglow which continues for over 200 minutes. A phosphorescent material having an afterglow which continues for over 200 minutes results in an afterimage on a display which

remains over 200 minutes, a significant disadvantage in, for example, a PDP.

Thus, the objective of Morihito et al. is to actively prolong the afterglow time of the phosphorescent materials. Such a long time afterglow is impermissible for elements utilized for PDPs. Thus, it is clear that the present invention is different from that of Morihito et al. and the disclosure of Setoguchi et al. does not cure this deficiency. Accordingly, the present invention is not obvious over Morihito et al., alone or in combination with Setoguchi et al.

Thus, in light of the above, Applicants respectfully request that claims 1-13 be allowed.

Claims 1, 5, and 10 have been amended, support being found in, for example, the claims as filed and the specification on pages 5-6.

No fee is believed due. If there is any fee due the USPTO is hereby authorized to charge such fee to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,
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